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increasing price of fuel is a premonition which we shall do well to heed. The probability of any important decrease in the consumption of wood no man can foresee. If the coal locomotives should prove economical, no doubt much less wood will be used for railway purposes, and iron may to some extent be substituted for wood in the construction of ships and houses. But on this we cannot build any calculation. The safer and more rational course is to meet the danger by the direct means of forest-planting. If half the money that is annually wasted in foolish speculations, or lost in the fluctuations of commerce, were turned to this work of renewing our forests, all the loss would be met by an equal gain. The pleadings of alarmists may seem extravagant, but in the end, we are confident, it will be proved that they were not too earnest or too early.

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ART. VII. — *Archæology of the United States; or, Sketches, Historical and Bibliographical, of the Progress of Information and Opinion respecting Vestiges of Antiquity in the United States.* By SAMUEL F. HAVEN. Washington: Published by the Smithsonian Institution. New York: G. P. Putnam & Co. 1856. Large 4to. pp. 168.

MR. HAVEN condenses into the narrow compass of his essay the history of more than three centuries of learning and folly, speculation and reasoning, fancy and fact, as to the antiquities of this country. The condensation is severe, — the result of years of study in this precise field. It is, of course, impossible for us to attempt a further compression, which should exhibit to the reader even what the unhappy newspaper reporters call “a sketch” of the discourse of the man, even more unhappy, whose words they distort and caricature. The book is itself an ultimate analysis; it is not to be analyzed further. It is a bibliographical study of the books on American antiquities, and a philosophical history of the results of various investigators. The author is almost too careful not

to deduce or state any theory of his own. He presents, with great clearness and fairness, the results and opinions of others, from the works of the heavy-moulded German and Dutch geographers of the sixteenth and seventeenth centuries, down to the boldest and the most cautious ethnological suggestions of our time.

This book shows very clearly how it is that the passion for antiquarian speculation lingers as it does. It exists everywhere. Two or three flint arrow-heads on the mantel-piece of a farm-house will attract the attention of every visitor. Again and again they will start the inexhaustible topic, for guess, for wonder, and for assumption, in conversation. The boy saves the old corn-pestle which he has found in the meadow, labels it "war-club," and proposes to himself the formation of a museum. Men not given to sentiment will carry home, with care, the bit of rock marked with crystals of graphite which the plough has turned up, — will wash it out, and then take it to the minister, to ask if it be not Hebrew, — as if the poor man could read it, if it were! And Joseph Smith, the most ingenious of prophets, baits his hook for the gudgeons of the land with a distinct statement of the discovery of golden plates, which make a certainty of that dream, so dear to "every true American heart," that the original inhabitants of this country once dwelt in the valleys of Canaan. We may say, in passing, that we believe this hypothesis of Joseph Smith to be the only suggestion regarding our predecessors in the settlement of this country which Mr. Haven has thought unworthy of notice in his careful survey.

This passion is so natural, that all the fun which can be made from the Oldbucks or the Dryasdusts of the world, all the dashing blunders of bold men, all the stupid blunders of dull men, and all the foolery of ignorant men, cannot in the least check it. There is no reason that they should. There is ample food for it to thrive upon. Men may write as many stupid ante-Columbian poems as they choose, and as many hopeless Indian novels. The Danish antiquaries may make us laugh by telling of the laborious travels of their correspondents through Massachusetts and Rhode Island, the limits of those labors in the pursuit of knowledge being Dighton on

the one hand and Newport on the other. Yet, for all this, no one gives up his curiosity, and no one ought to. Here is, it seems, the oldest continent of them all. Of this "New World" the "fields grew green" while "oceans gathered" above those young upstarts, Europe, Asia, and Africa, and the baby Australia. In this old continent there lived and live a race of men, whose distinction from every other race is so strong, that, whatever be the other differences of ethnologists, this race makes always a subdivision by itself. And this race of men — most of them mere children in the arts, the best of them withering like cut grass before the hot onslaught of European races — speak twelve hundred different languages, all based upon one general principle of construction, though with amazing radical differences in their vocabulary, and showing a complexity of arrangement, and delicate powers of expression, entirely beyond the most elaborate languages of the "civilized" world. We ought not to be laughed out of curiosity as to such a race, and the history of such a world.

Curiosity as to the discovery of the continent is equally legitimate. Our government has just now sent an exploring expedition inside Behring's Strait, on the Asiatic side. Officers and men made a long visit with the Tschuktschis, and have returned, doubtless, with curious information, if it would but suit the convenience of the government printing-offices to publish it. These Tschuktschi Indians are the only people on the Asiatic side who speak an American language, — a language based on the peculiarities of American grammar. They have an Esquimaux dialect. How are we to connect them and Asia with those Esquimaux whom McClure found isolated on Prince Albert's Land, who had never seen whites, nor heard of them, — among whose kindred Lieutenant Pim hopes to find some of Franklin's crew? How with that gallant little knot of men with whom, high up in the Arctic zone, Dr. Kane entered into such touchingly intimate relations? Did the Tschuktschis come to us, or did they go from us? Or, again, beyond doubt, Snorre and Thorfinn, and their crews, came down our coast somewhere, ate sour grapes in Vinland, and had their teeth set on edge by them. Thorvaldsen, the de-

scendant of Thorvald, belongs to the growing family of our American sculptors ; for his blood runs back to the child who was born of Norse parents somewhere on our shore. We shall not be laughed out of looking for traces of these people, though the stone tower of the Danish antiquaries be doubtless a wind-mill of Governor Arnold's, the skeleton in armor as surely an Indian in the guise of two hundred and fifty years ago, and the characters on Dighton Rock but one among a thousand Indian inscriptions.

Dr. Southey basely deserted us in the last editions of *Madoc*. In 1815, in a note to that poem which had been published ten years before, he says : " That country has now been fully explored, and, wherever *Madoc* may have settled, it is now certain that no Welsh Indians are to be found upon any branches of the *Missouri*." By " fully explored," he meant that *Lewis* and *Clark* had passed up the *Missouri* and back again. To this day, the country is not fully explored. We will attempt, before we have done with *Mr. Haven*, to arouse the enthusiasm of some young adventurer in archæology, by bringing together, from his digest, what grounds there are for the hypothesis that the " unknown country of *Madawak ap Owen Gwynedh* " is this North America of ours.

Such illustrations will give some idea how wide is the range of the research into which *Mr. Haven's* treatise leads us. He takes us to *Tartary*, to *Asia Minor*, to *Phœnicia*, all around *Africa*, to the *Cimbri*, the *Tschuktschi*, the *Japanese*, and the *Hindoos*, and introduces us to persons as dissimilar as *John Ledyard* and the *Empress Catharine*, — *General Cass* and the *Emperor Theodosius*, — *Seneca* in the *Medea* and *David Cusic*, the native historian of *Hiawatha* at home. In tracing gallantly up the different clews of this study, he shrinks at none of them, and gives us something tangible and intelligible as the result of every one. The investigation is first historical, as to the distinct written records which show any connection of the men of the other continent with this. Then it becomes the study of monuments, and the author follows along the various American students of the mounds and other earth-works, and of the relics of the manufacture of the American tribes, ancient and recent. The legends of the tribes them-

selves furnish very little ground for philosophical inquiry. True children as the Indians are, they seem, like other children, to forget there was any yesterday, while, like them too, they act as if there were to be no to-morrow. Such shreds of legend as there are, however, are arranged here in their order. Results more satisfactory are gained from the study of the languages. Mr. Haven thus states Frederic Schlegel's great rule: "that names of things are transitory, but the system of grammatical construction is permanent, assimilating to itself, and distributing, according to its own laws, whatever new material is acquired, and, unless overwhelmed by the irruption of a new system, sustained by the dominating force of numbers and conquest, maintains its vitality through all changes." He gives the following as the result of the application of this rule in our archæology:—

"As applied to American languages, the results of this rule of exegesis have been most remarkable. No theories of derivation from the Old World have stood the test of its alchemy. All traces of the fugitive tribes of Israel, supposed to be found here, are again lost. Neither Phœnicians, nor Hindoos, nor Chinese, nor Scandinavians, nor Welsh, have left an impress of their national syntax behind them. But the dialects of the Western Continent, radically united among themselves, and radically distinguished from all others, stand in hoary brotherhood by the side of the most ancient vocal systems of the human race. 'It deserves notice,' says Mr. Gallatin, 'that Vater could point out but two languages that, on account of the multiplicity of their forms, had a character, if not similar, at least analogous to those of America. These were the Congo and the Basque. The first spoken by a barbarous nation of Africa, the other now universally admitted to be a remarkable relic of a most ancient and primitive language found in the most early ages of the world.'" — p. 54.

After following down the study of the American languages by different inquirers in our own country through the first two centuries of history, Mr. Haven explains, with the zeal and skill of a connoisseur, the remarkable results attained in our own generation by the labors of Duponceau, Pickering, and Gallatin. We should follow him into this very attractive survey, but that in our own pages the second writer of this distinguished trio himself called attention to the subject,

with his own peculiar precision and power\*; and that we have had other occasions to discuss it in several points of view.†

The physical attributes of the aboriginal Americans have furnished materials for investigations of a wholly different character. As in the other lines of research, Mr. Haven confines himself here chiefly, after the very outset of the inquiry, to displaying the views proposed by American students. There are few of these students who will not be surprised to see how wide the range which is taken in, even after this limitation has been made. Curiously enough, our old Governor Pownal,—in whom an enthusiastic Canadian *savant* has lately found Junius, in whom his own contemporaries found nothing remarkable—a sort of “silver-tongued man, who tried to glide between both sides, and so escape the jam,” and who did not succeed in that,—this accomplished, unsuccessful, underrated man turns up among the most judicious of the earlier explorers. We call him underrated, because not only were the cranial characteristics of the aborigines suggested by him as the key to American archæological study, but, in physical geography, the philosophy of the Gulf Stream seems to date from him; and though he is not Junius, (as he certainly is not, if anything is certain in that matter,) none the less was he the author of a great deal of Cassandra-like prophecy in politics, which the government did not believe, and of sound political advice too wise for them to appreciate. His hint as to the necessity of comparing crania was repeated by Camper and Blumenbach, as essential to the study of the American system. Pownal not only started the suggestion, but, like a bold theorizer, stated what the ultimate verdict would be, namely, that “the American people are of the same family from one end of the continent to the other.” It was not until 1839, however, that any results of such a collection of crania as he suggested appeared. In that year, Dr. Morton of Philadelphia, whose name is now identified with this branch of study, published his “*Crania Americana*.” This work, on its side, substantiated the same conclusion which

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\* N. A. Review, Vol. IX. p. 179.

† Ibid., Vol. XXVI. p. 377; Vol. XLV. p. 34.

was demonstrated by wholly different processes, at nearly the same time, by Duponceau and Gallatin, namely, that wherever the American race comes from, or however it is to be classed ethnologically, it is *one*, from end to end of the continent. Morton's investigations go further than Gallatin's, in showing that the extinct tribes of Peruvians and Mexicans belong to the same great subdivision of the human family. Beyond this point of the unity of the American races, it is impossible to claim that the study of their crania takes us. Pownall, in his bold anticipation of the inquiry, says that the Americans are of the same family with the Tartars. Dr. Morton says that the American race is wholly distinct from all others. And, for a while, he carried the tide of opinion with him; but this position is now again doubted. Even before his death, one disputant and another dashed into the fight, to have a stroke around the banner he had lifted; and since his death, "the war has darkly closed around," and this matter is as fiercely controverted — we do not say as doubtful — as it ever was. Into the discussion of it, there comes, of course, the whole controversy on the Unity of Races. Mr. Haven states the history of this discussion with patience and precision, and brings it down to our own time.

Here the American Anglo-Saxon is surprised at finding that the scientific world is working round again to the old notion of a degeneracy of the races in America. Our Cherokee and Wyandot subscribers will feel a grim satisfaction as we inform them that Dr. Knox holds that "the Saxon decays in Northern America, and, were the supplies from Europe not incessant, he could not stand his ground in these new countries." We are here, like Walker's fillibusters in Nicaragua, (if, indeed, they be there when this page meets the reader's eye,) lost, unless we have recruits by every vessel. Dr. Knox anticipates the ultimate decadence of the whole European stock here, just as the St. Michael's pears were thought to be dying out, — as the mastodons came to their end, — as the Spaniards in Mexico are wasting away before the native blood, which takes such a desolating revenge on the descendants of the conquerors. He predicts the restoration of the native race, "should the latter escape annihilation in the



mean time." A narrow chance it is. Between the humanity of their friends and the inhumanity of their enemies, the native race fares ill; and, far more destructive than either of these, such inherent seeds of ruin as are in childish improvidence, brutish cruelty, lust, laziness, intemperance, and starvation, are all the while decimating them with a fatal regularity, wholly independent of the work of external causes. Yet, if some sleeping potion shall give to some Indian lady a magic rest for some few thousand years in some enchanted wigwam, she will wake, according to Dr. Knox, to see a continent from which, by the "law of decadence," all the whites will have died off. Her own race, it needs no prophet to say, will have died off before; and she, having escaped the annihilation of her kin, will step forth, like another Pyrrha, upon a desert world.

By the side of this bold hypothesis, Professor Guyot tells us — writing, perhaps, on some day when he was homesick — that the vegetable world thrives in America at the expense of all the animal world; Dr. Carpenter, that we Yankees are all growing to look like Indians; while other authors confirm, more or less, such hypotheses, which would seem to belong to the straiter sect of a "Native-American," perhaps of a "Know-Nothing," philosophy. Of all of these Mr. Haven says: —

"Happily, our task is to record, not to reconcile, opinions. It would be as easy to give unity and consistency to a picture made up of sketches taken from different stand-points, under different lights, and at various degrees of perspective, as to project a congruous system of ethnology out of materials that writers have collected from different points of observation, often for contrary purposes, and affected by the coloring of opposite prejudices." — p. 98.

We know how little idea we give of the spirit and interest of these various inquiries by our brief index of the several heads examined. To give a single instance of the tempting fields of research brought to view, we will indulge ourselves in opening to the reader a sketch of the authorities and probabilities in that romantic, mysterious, and poetical tradition of Madoc, to which we have already alluded.

"In the History of Wales, translated by Dr. Powell from the origi-

nal British of Caradoc of Lhancarvan, is the foundation of the story of Madawc ap Owen Gwynedd, who, about 1170, as it is represented, sailed westward with a small fleet of ships, and, leaving Ireland on the North, came at length to an unknown country, where he left a part of his followers, and, returning home for more, bade a final adieu to his native land, and sailed again with ten ships." — p. 10.

Let it be observed, that he left a part of his men on his first voyage. "Here is," says Mr. Haven, "really all that is known in history respecting the voyage of Madoc."

But leaving Wales, there is certainly a remarkable series of authorities, independent of one another, as to the existence of the Welsh language on this side of the ocean. Mr. Haven brings these together thus: —

"The circumstances that may be adduced to prove the former existence of a Celtic colony in the Southern regions of the United States are certainly curious, and exhibit some remarkable coincidences.

"The Scandinavian tales of an 'Irish Christian people,' somewhere south of the Chesapeake, relate to a period nearly two centuries prior to the alleged expedition of Madoc, but deserve to be noticed in this connection. The same localities, near the Gulf of Mexico, have been assigned to them that are designated as the original abode of the followers of the Welsh chieftain.

"Then we have the story of the Rev. Morgan Jones, that the Tuscaroras understood his preaching 'in the British tongue,' about A. D. 1660; and the less definite accounts of 'one Stedman,' and 'one Oliver Humphreys,' respecting natives, somewhere near Florida, who spoke Welsh. To these are to be added the statements of Mr. Charles Beatty, a missionary, who visited the interior in the year 1766.

"Benjamin Sutton, a captive, informed him that he had been with the Choctaws to an Indian town, a very considerable distance from New Orleans, whose inhabitants were of different complexions, not so tawny as the other Indians, and who spoke Welsh, and that they had a book among them wrapped in skins, but could not read it; that he heard some of these afterwards in the lower Shawanaugh town speak Welsh with one Lewis, a Welshman, a captive; and that this Welsh tribe now live on the west side of the Mississippi, a great way above New Orleans.

"Levi Hicks, another captive, told Beatty that he had been in a town of Indians, on the west side of the Mississippi, who talked Welsh, as he was told, for he did not understand them. The account given by

Captain Isaac Stuart, said to be taken from his own mouth in 1782, and inserted in the *Public Advertiser*, Oct. 8, 1785, is in substance as follows:— That, eighteen years before, he was taken prisoner about fifty miles west of Fort Pitt, and carried by the Indians to the Wabash. After two years of bondage, he and a fellow-captive named John Davy (or David) were redeemed by a Spaniard, and accompanying him they crossed the Mississippi, near Red River, up which they travelled seven hundred miles, when they came to a nation of Indians remarkably white, and whose hair was mostly of a reddish color. The day after their arrival, the Welshman (David) declared his intention of remaining with that people, as he understood their language. Stuart's curiosity being excited by that information, he questioned the chiefs with the aid of his companion, and learned from them that their forefathers came from a foreign country and landed on the east side of the Mississippi, the chiefs describing particularly the country of Florida; and that, on the Spaniards taking possession of Mexico, they fled to their then abode. As a proof of their story, they exhibited rolls of parchment carefully tied up in otter's skins, on which were large characters written with blue ink, which the Welshman, being ignorant of letters, was unable to read.

“If these statements are compared with Mr. Catlin's account of the Mandans, they will be found to correspond remarkably with his convictions respecting the physical differences between them and other tribes, their probable descent from the followers of Madoc, and the course of their migrations. He would doubtless have employed them to strengthen his argument had he been aware of their existence. *Antiquitates Americanæ*, p. xxxvii. Williams's ‘*Inquiry*,’ &c., *Am. Museum* for April and May, 1792. Catlin's *North American Indians*, 6th Lond. ed., I. 206, II. Appendix A.” — pp. 26, 27.

Mr. Catlin satisfied himself, in his residence among these very interesting Mandan Indians:— First, that they had slowly worked their way up the Missouri River, which was sufficiently clear, inasmuch as their old villages still existed in ruins lower down. Secondly, that their migration had continued for a long time seemed certain from the fact that they had names and representations of animals not belonging in their present home. One of these was the pheasant of the Ohio Valley, which gives them their name. Thirdly, it is undoubtedly true that they were an object of constant hostility to all the other tribes. They were reduced in numbers by their constant wars, being themselves the most highly culti-

vated people of the Western plains. There can be no doubt that the chief element of their language as spoken to-day is Dacotah or Sioux. But as the chief part of the language now spoken by cultivated Welshmen in Wales is English, so all that could be expected in the case of the relic of a Welsh colony would be that a few words should be preserved. The women of such a colony would be mostly Indians; and in the changes of eight hundred years the Welsh element of language would fare ill. And, in fact, Mr. Catlin presents an array of a dozen or more familiar words common to the Mandan and the Welshman, words which, it is to be observed, are not Dacotah or Sioux

Now let the ardent reader observe, that in 1767, according to Stuart's account, he and Davy crossed the Mississippi and ascended one of its western affluents. This was not, probably, our Red River;\*—there is no reason why we should not understand it to be the Muddy River of the French maps of that day, our own Missouri. Seven hundred miles up this river they found men whom Davy said he understood, and with whom he stayed. Let this go as a traveller's story, still the circumstances remain in Stuart's account, that their chiefs came from a foreign country, landed on the eastern shore of the Mississippi, and had been driven up to the place where they were. Now, as to the Mandans, the certain facts are, that in 1767 they were settled in nine villages, — not seven hundred miles only, but nearer a thousand, up the river, perhaps eight hundred, by a trail along the valley. They were driven up ninety miles farther before 1805, — when Lewis and Clark found them, — and were then in but two villages. Thirty years later Mr. Catlin found they had removed again. They had then no memory of a foreign ancestry, but there were, as we have said, indications, amounting to a certainty, that they had emigrated from a region as far south as the home of the pheasant, either on the Ohio or the Lower Mississippi. These facts Mr. Catlin collects quite in ignorance of Stuart's story. He also finds Welsh words (or thinks he finds them, — nothing is so dangerous as such analogies).

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\* Because, seven hundred miles from the Mississippi, our Red River flows through a desert incapable of cultivation.

We certainly do not collate these authorities from Mr. Haven, and from Mr. Catlin, to whom he refers us, with any idea of sustaining a theory upon them. Were we not constitutionally cautious, Mr. Haven's example in such matters would make us so. We would rather suggest to some young inquirer of spirit, that here is a pleasant vein to trace out, which no one is exploring just now. And we will leave him to his inquiry with these hints:—that he thoroughly study the Dacotah or Sioux language, as contained in the *Lexicon* recently published by the Smithsonian Institution, in its work of "diffusing knowledge among men"; that he do the same with the Welsh language; that he track "Isaac Stuart," who was alive and in a deposing mood in 1782–85,—ascertain what became of him, and what character for truth and veracity he sustained; that he inquire whether Madoc's men would have had parchments written with blue ink or not; and that, by a visit to the "gentlemanly Mandans," he should make sure if they have no scrap of parchment among their medicines or totems.

The whiteness of the Mandans and the light color of their hair are facts generally acknowledged now, though not mentioned by Lewis and Clark, who give long accounts of them.

If the reader have not time for the studies we suggest, and ask us for a conjecture, we shall venture to repeat what we have written elsewhere, though it will not satisfy enthusiasts, because it halts between two opinions. "The most plausible ground, perhaps, for an enthusiast in the Welsh origin of the Mandans to take would be, that they are the representatives, not of Madoc's large colony, but of the small party he left in possession after his first voyage. A Welsh colony of ten ships fitted for settlement would have left some sign, had they ever landed; a handful of seamen would have been more easily absorbed."

After his examination of the questions of American Archæology, from the several phases of inquiry which we may call the historical, the monumental, the philological, and the physiological, Mr. Haven closes his treatise by a review of the various works on the subject, of which in these different points of view he has not fully spoken. Such are works

which examine the question, like his own, in various aspects, and deserve to be mentioned, not as authorities only, but as attempting a scientific examination of the general subject.

In this part of the book, the Danish antiquaries, Mr. Bradford, Messrs. Squier and Davis, and other American authors, and Mr. Schoolcraft's formidable mass of collections, come under review. A concluding chapter, with severe brevity, condenses the results of the whole inquiry.

These results, few but satisfactory so far as they go, are :—

1. That we have no right to speak as yet of either continent as geologically older than the other. That dogmatic science, geology, makes very bold assertions in the matter, but unfortunately makes them with equal boldness on each side.

2. The discovery of bones of men, together with the bones of non-existent species of animals, seems to be well authenticated, but it does not follow that either perished previously to our present geological period.

3. It seems probable, and almost certain, that casual passages from the Eastern to the Western continent were made, and more than once, in very rude ages. But,

4. "However frequent foreign accessions may have been, they have not had power to affect materially the structural uniformity of speech and physical conformation, and the homogeneous mental type, of the aboriginal inhabitants."

5. There can be no question that the Northmen made some of these casual passages ; but "we are justified by the present aspect of the question in assuming that the Scandinavians have left no marks of residence, linguistic, physical, or monumental, to prove that they have primarily or secondarily been important contributors to the peopling of the New World."

6. The passage from the eastern shore of Asia to the northwest coast of America is more easily made, has doubtless been made more frequently, and in early times left far more important results, than any such passage of the Atlantic. But,

7. Beyond a few coincidences of no great importance, there is no evidence of connection between the northwest tribes of America and those of South America, except such as may be

inferred from the general unity of the American races. There are no satisfactory traces of migration from the north to the south.

8. Mr. Haven remarks in general, and, as we conceive, very soundly :—

“Affinities which have no *united* reference to any particular nation, but point now to one people, and then to another totally distinct from the first, and in a third case to others equally disconnected, however numerous they may be in the aggregate, tend, by their diversity, to weaken the force of each individual analogy as an evidence of origin, and can only serve to illustrate the possibility of accidental and partial communications. If congruous affinities, of a positive character, should be found in some detached locality, they might seem to indicate descent from a special stock ; but claims to distinctive derivation, founded on such evidence, are opposed by the linguistic and physical proofs of a general unity of race throughout the entire continent. . . . .

“Thus, if able philologists have shown the existence of certain general principles or phenomena in the languages of America, which are peculiar and characteristic, uniting them together, and distinguishing them from other languages ; and if able anatomists have become assured of physical traits in the American aborigines which justify their classification as a separate variety of man, — exceptions which may be pointed out in either case do not necessarily impair the soundness of their general conclusions. For exceptions may, with plausibility, be attributed to causes that are accidental, and applicable only to particular instances ; and although philological and physiological affinities with other races should be equally well established, the argument drawn from radical peculiarities and idiosyncrasies may still remain unshaken, so long as the latter are paramount.” — pp. 149, 150.

This suggestion should be borne in mind, before we are carried away captive by any theory of affinity based on one or two isolated observations. It applies, indeed, to the bold statement of the Chevalier Bunsen, that a very considerable part of the inhabitants of America belong to what he calls the Turanian\* race. With regard to this statement, Mr. Haven remarks :—

“The classification of American languages with those comprehended under the term *Turanian* amounts simply to this : that the structure of the former exhibits that stage of advancement from an inorganic or

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\* Bunsen's Philosophy of Universal History, Vol. II. p. 115.

monosyllabic dialect which is indicated by the system of *agglutination*; in other words, it belongs to the oldest *organic* stage." — p. 151.

Of all these speculations, the result is thus summed up by our author : —

"Having the element of *time* granted, we may go behind the commencement of Chinese, Japanese, and other forms of Mongolian culture, and imagine the ancestors of our aborigines to have been still mere wanderers, without arts, and with no religious faith save the primitive Oriental worship of the sun. While the parent stock upon the Eastern continent would attain to whatever development it might reach under circumstances not entirely excluding it from being acted upon and instructed by other races, the offshoot in America would experience no external influences but those of nature, and would possess as a basis of advancement only the native instincts, and possibly a few traditions, of its race.

"In this manner, time and isolation, which are regarded as indispensable to one division of the problem, may be made to answer the exigencies of other divisions; and whatever is wanting to account for exceptional facts or circumstances may be supplied by the supposition of waifs from other nations, occasionally cast upon these shores." — pp. 152, 153.

9. The works of art, if they may so be called, discovered in various parts of our own country, do not indicate any higher civilization than the first European invaders found here, if we except those finer sculptures, representing tropical animals, which are in hard materials, and may have been brought from some distant country.

These conclusions, it will be seen, like the sound conclusions in most branches of human knowledge, show that we are certainly ignorant on most points, and that we certainly know very few. It is a satisfaction to know that we know something, it is not perhaps very probable that in this world we shall know much more, in these matters. Mr. Haven closes his review with the following words : —

"We desire to stop where evidence ceases, and offer no speculations as to the direction from which the authors of the vestiges of antiquity in the United States entered the country, or from whence their arts were derived. The deductions from scientific investigations, philological and physiological, tend to prove that the American races are of great antiquity. Their religious doctrines, their superstitions, both in



their nature and in their modes of practice, and their arts, accord with those of the most primitive age of mankind. With all their characteristics affinities are found in the early condition of Asiatic races ; and a channel of communication is pointed out, through which they might have poured into this continent before the existing institutions and national divisions of the parent country were developed. Fortuitous arrivals, too inconsiderable in numbers and influence to leave decided impressions, may at intervals have taken place from other lands ; and geographical facts and atmospherical phenomena may serve to explain why the New World remained so long a sealed book to the cultivated nations of Europe, or was only known through the vague intimations and rumors alluded to in history, such as the chances of the sea and indefinite reports from barbarous regions and peoples would be likely to bring to their ears." — pp. 158, 159.

So remarkable is the range of studies required for this curious and valuable treatise, and so many the authors whose conjectures, theories, and discoveries are combined in it, that it would not have been possible to any man, unless he had given to the task the effort of years. Mr. Haven has availed himself of his position as librarian of the American Antiquarian Society, whose collection, although limited, is probably the most complete, on these topics, of any which we have. In the course of many years of duty there, he has collected from very wide and diverse sources the observations which are here thrown together in systematic form. The fact that the results of study have thus been digested, so that we can find in one volume a sort of index to the thousand writers who have discussed various points of our archæology, gives a special interest to a proposal made by the Antiquarian Society, at its last year's annual meeting. Mr. Haven, as chairman of its committee of publication, suggested a plan for a quarterly or annual archæological journal, which should collect, publish, and so preserve, the frequent allusions to new developments and supposed discoveries relating to various questions in that department.

A general organ of American archæology, if it did no more than to collect, in one series, the various notes of different observers, now published in the newspapers and elsewhere, — as the French *Bulletin de Géographie* annually collects and publishes the different notices of progress in geographical

science, — would, by that mere collection, introduce system into a line of investigation which has thus far been singularly unsystematic. But we are confident that, under Mr. Haven's auspices, such a journal would become much more than a mere compend. of observations published elsewhere.

We copy some of his suggestions from his own recent report:—

“It may, perhaps, be reasonable to expect that such an undertaking would, at its commencement, be comparatively humble and imperfect; and possibly doubts may be entertained whether sufficient materials to fill the pages and sustain their interest would present themselves. But a journal printed in a style of moderate expense, that would admit of a proportionately extensive circulation, might develop resources now dormant or unrecognized. There is a taste for investigation already prevalent, which it would be calculated to encourage and direct, as the appetite for such pursuits seldom fails to grow by what it feeds on. There are many claims of discoveries, more or less remarkable, that deserve so much attention as may be necessary to determine their reality and importance; or that should be recorded, where they can be readily referred to, should circumstances at any time give them additional significance. Of this nature are the frequent statements of the disinterment of coins, of an ancient and peculiar character, from considerable depths beneath the soil. Such, too, are the supposed Runic inscriptions on the Island of Monhegan, now exciting considerable interest; the inscribed stone found in the interior of New York, with the date of 1520, and possessing marks supposed to be indicative of the presence in that region of some one of the early Spanish adventurers; and the manuscript, of which a fac-simile is before us, bearing the date of Nov. 29, 1564, said to have been taken from a leaden enclosure that came from the bank of a stream in Swanton, Vt., near Lake Champlain, deemed worthy of consideration by scientific gentlemen at Burlington. Indeed, there is no paucity of similar themes for passing notice or investigation.

“There is one object of great moment to ethnologists, whose accomplishment might be facilitated by an organ of archæological miscellany. A common feeling exists in regard to the desirableness of preserving the native names of lakes, mountains, rivers, and localities throughout the country, with their true interpretation. This cannot well be effected suddenly, or by any one compiler. If undertaken by an individual, as a single task, there would be great liability to misconception for want of accurate information, and on account of the different spelling and varied construction given to the same or similar words occur-

ring in different localities. There are, however, many persons, in the various States and sections of the Union, who have given partial attention to the subject, and, by conference with intelligent Indians or other means, have collected and interpreted the traditionary appellations belonging to particular neighborhoods. It is also known that some gentlemen are attempting to form more general tables of these pregnant memorials of an expiring race; and it is probable, that, in the pages of a periodical open to such communications, and adapted to them in their elementary form, materials would accumulate, from whose number and variety a lexicon of aboriginal topography might ultimately be prepared with a reasonable degree of accuracy.

"It is not to be forgotten, that this institution is a continental one; and, although it may not be expected to organize explorations beyond the limits of the United States, it is under an implied obligation to be observant of whatever is transpiring relevant to its province in the Western hemisphere. The Mexican and the South American regions are fast losing their inaccessible character; and a systematic analysis of the reports of official surveyors, or the narratives of casual adventurers and travellers, that issue in various shapes from the press, might be fruitful of facts having an important ethnological bearing. It is well known that new views are being taken of both Mexican and Peruvian history. Strong suspicions are excited in regard to the trustworthiness of the Spanish chroniclers. Their observations and their representations are deemed to have been equally incorrect. What with pious frauds for religious objects, false or exaggerated bulletins for the enhancement of military achievements, and the application of the high-sounding terms and titles of civilized countries to the rude arts and institutions of the natives, very untrue impressions are believed to have been given of the real condition of the people, their traditional history, and their degree of civilization. A revision of opinions, which had been, to a certain extent, established, is already commencing, and may be expected to make some demand on public attention. Whatever may appear in the publications of the day, whether directly or only incidentally applicable to these and other ethnological questions, has an interest, which would be much enhanced by prompt association and comparison.

"To these considerations are to be added the advantages attending the form of a current vehicle for the publication of proceedings, reports, lists of donations, minor papers, extracts from manuscripts, &c., which are not adapted to the character of substantial memoirs."\*

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\* Report of Committee on Publication to the American Antiquarian Society at its Annual Meeting, Boston, October 21, 1856, pp. 61 - 64.

We cannot but hope that this plan may be carried out, and that the Antiquarian Society, to which our literature is largely indebted, will undertake such a journal. It would indeed take up the study of our antiquities exactly where Mr. Haven's book has left it, and we should have a trustworthy compilation and record of any new observations or theories.

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ART. VIII. — *Lectures on Quaternions; containing a Systematic Statement of a New Mathematical Method; of which the Principles were communicated in 1843 to the Royal Irish Academy, and which has since formed the Subject of successive Courses of Lectures delivered in 1848 and subsequent Years, in the Halls of Trinity College, Dublin: with numerous Illustrative Diagrams, and with some Geometrical and Physical Applications.* By Sir WILLIAM ROWAN HAMILTON, LL. D., M. R. I. A. Dublin: Hodges and Smith. 1853. 8vo. pp. 64, lxxii, 736.

It is confidently predicted, by those best qualified to judge, that in the coming centuries Hamilton's Quaternions will stand out as the great discovery of our nineteenth century. Yet how silently has the book taken its place upon the shelves of the mathematician's library! Perhaps not fifty men on this side the Atlantic have seen it, certainly not five have read it.

There is something sublime in the secrecy in which the really great deeds of the mathematician are done. No popular applause follows the act; neither contemporary nor succeeding generations of the people understand it. The geometer must be tried by his peers, and those who truly deserve the title of geometer or analyst have usually been unable to find so many as twelve living peers to form a jury. Archimedes so far outstripped his competitors in the race, that more than a thousand years elapsed before any man appeared, able to sit in judgment on his work, and to say how far he had really gone. And in judging of those men whose names are worthy